

REMARKS

The Examiner's Official Action dated July 31, 1995 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for a Three Month Extension of Time* which extends the shortened statutory period of response to January 31, 1996. Accordingly, applicants respectfully submit that this response is being timely filed.

Claims 1-25 were pending in the present application prior to the above amendment. Claims 1, 4-7 and 9-25 have been amended in order to more clearly define the protection to which applicants are entitled. Claim 8 is cancelled. New claims 26-31 have been added and are believed to be allowable as written. Therefore, claims 1-7 and 9-31 are now pending in the present application.

Summary of the Invention

Claims 1, 7, 11, 14, 17, 21 and 25 are independent. Claims 1, 7, 11, 14, 17, and 21 are generally directed to an electric device comprising an active matrix circuit, a driving means, a controller for controlling the driving means formed on an insulating substrate. Claim 25 is generally directed to at least one TFT forming an active matrix circuit, another TFT having substantially the same structure as the first TFT wherein the structure includes the same material as one of the gate electrode material, gate insulating material and channel forming material. The advantage of the present invention is to manufacture a display having only one board to minimize the size, weight and width of the display.

Prior Art Rejections

The Official Action rejects claims 1, 4, 5, 17 and 21 as anticipated by or, in the alternative, obvious over U.S. Patent No. 5,404,175 to Nagae. Nagae is relied upon to disclose a liquid crystal panel having a display driving section 131, a peripheral circuit 132, and control circuits 133 and 134.

Applicants respectfully disagree with the Official Action. Nagae does not specifically disclose an active matrix circuit formed on an insulating substrate with the driving and controlling means. Rather, Nagae discloses the display driving section 131, a peripheral circuit 132, and a control circuit 133 and 134 as being "integrated in the silicon monocrystal wafer" (see col. 10, lines 41-54).

Applicants have amended claims 1, 17 and 21 to recite an electric device having an insulating substrate. The Nagae device is formed on a silicon monocrystal wafer which teaches away from the spirit and scope of the present invention for the following reasons. First, the silicon monocrystal wafer is not transparent and thus, may not make a suitable liquid crystal display device. In addition, since the size of the silicon monocrystal wafer disclosed in the Nagae reference appears to be limited, the circuit device of Nagae cannot be used for a large screen display.

The claims were further amended to recite an active matrix circuit and driving means with at least one non-single crystalline TFT and a control means with at least one single crystalline semiconductor integrated circuit chip. Applicants further submit that Nagae fails to disclose this additional feature of the present invention as amended. Therefore, in view of the foregoing, applicants respectfully believe that one skilled in the art would not

be motivated to use the teachings of Nagae in the present invention. As such, reconsideration of the above claims as amended is requested.

The Official Action rejects claims 2, 3, 6-16, 18-20, and 22-25 as obvious over Nagae in view of U.S. Patent No. 5,281,840 to Sarma and U.S. Patent No. 5,261,156 to Mase et al. Sarma appears to disclose high mobility TFTs and display drivers integrated on an active matrix substrate. Mase et al. appears to disclose the use of a wire bonding and chip on glass (COG) technique to connect an integrated circuit to an electrical device.

The Official Action asserts that it would have been obvious to one skilled in the art to modify Nagae's LCD device using the teachings of Sarma and Mase et al. as discussed above. Moreover, page 5 of the Official Action attempts to provide details reasons as to why the present invention would be obvious over the combination of the cited references.

Applicants respectfully submit that neither Sarma nor Mase et al. overcome the noted deficiencies of Nagae and, in particular, the combination of controller circuitry, driver circuits and display on the same insulating substrate. In addition, claims 7, 11, 14, 17 and 25 have been amended in a similar manner to claims 1 and 21 above. Therefore, applicants respectfully submit that the above noted claims are patentable over the prior art of record and reconsideration is requested.

Formalities

The Official Action rejects claims 4, 5, 6, 7, 9, 10, 12, 15, 18, and 25 for omitting essential structural relationships of elements. In particular, the Official Action asserts that the structural relationships between the CPU, memory and the rest of the claims electric device are not defined in claims 4,

5, 9, and 10. Applicants have amended the above claims in the manner suggested by the Examiner and reconsideration is requested.

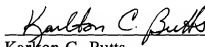
With regard to claims 6, 7, 12, 15, and 18, the Official Action contends that the structural relationship between the glass and the rest of the claimed device is not defined. Applicants have amended the above-noted claims to recite "the substrate comprises a glass substrate" instead of "the substrate has glass" in accordance with the suggested language of the Official Action and reconsideration is requested.

With regard to claim 25, the Official Action contends that the structural relationship between the claimed "another one thin film transistor" and the rest of the claimed electric device is not defined. Applicants have amended claim 25 by this response and reconsideration is requested.

Conclusion

For the reasons set forth above, applicants now believes that claims 1-7 and 9-31 are in proper condition for allowance. Reconsideration of the pending rejections is requested. If any further discussions about this case would be beneficial, the Examiner is invited to contact the undersigned.

Respectfully submitted,



Karlton C. Butts
Reg. No. 39,126
Sixbey, Friedman, Leedom & Ferguson, P.C.
2010 Corporate Ridge, Suite 600
McLean, Virginia 22102
(703) 790-9110